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ABSTRACT

A recent study of the quality of life in the rural South developed a weighted index of the overall quality of living based on subjective evaluations by rural residents of such concerns as the local government's quality, politics, political organizations, schools, educational system, churches, civic organizations, recreational facilities, job opportunities, income and the transportation system. Based on data from a survey of households in the open-country areas of 29 counties (considered low-income in 1950) in 7 states and from the respective state's 1970 population census, the index was a weighted average of the ratings given to 20 items. County characteristics selected for possible association with the overall quality of living index were median family income, family size, ages and education of the household head and homemaker, dependency index, capability-of-adults-to-work index, social participation of the head and homemaker, leisure time participation of household members, Material Possessions Level of Living score, Communication Items Level of Living score, number of level of living items possessed, Anomia Scale score, county population, and the percent of nonwhite in the county. The county's percent of nonwhite was the characteristic most significant to the overall index while among the nonsignificant characteristics were the churches and their programs, the extent to which local citizens were perceived as obeying the law, the welfare program and the real income situation of local people. (NQ)

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AN OVERALL COUNTY QUALITY OF LIVING INDEX*

by

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The university president who said in his charge to the newly appointed self-study committee that he wanted the final committee report on the state of the university to be brief, preferably a single number, illustrates the type of effort being made in the search for a quality of living index that can be applied to an entire community, state or nation. It is the search for a single number that can sum up the well-being of all of the people living in that area (political unit). It is the equivalent of the Gross National Product developed by the economists to represent the economic well-being of the nation but meant to apply to all of the aspects of living and not just the economic.

The value of such an indicator would be in its providing an easily read and understood measure of general well-being which could be compared with times past or would permit comparison between political units (geographic areas). Such comparisons would provide political leaders and public officials, as well as the average citizen, with indications of the direction of change and with the relative well-being of different jurisdictions. It would also help to avoid the piecemeal approach that tends to focus on improvement in a single area of need rather than on a balanced program of development.

The problems associated with the development of such an index are monumental. They start with questions as to what really affects the quality of living of people living in a given area. They go on to deal with the question of whether such a measure should be basically a subjective, attitudinal measure or whether it should be strictly objective and thus more strictly comparable between different times and places. Concern is then with the availability of the needed information and the technical problems of finding reasonable ways of summarizing the various parts and combining them to achieve a satisfactory index value.

What Really Affects the Quality of Living?

The question of what effects the quality of living has been asked by a number of researchers and the answers given have varied widely. In a cross-cultural effort Wilkening and Galeski concluded that both subjective and objective aspects of the socioeconomic environment must be taken into account.¹ A discussion of this issue is contained in the volume by Campbell, Converse and Rodgers including the criticisms of the use of both kinds of indicators.²

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Suffice it to say here that a great many objective conditions and the subjective interpretations of those conditions can enter into the quality of the living of an individual. For different individuals the particular objective conditions that influence the quality will vary as will the subjective interpretation of those objective conditions. To find some measure which lumps all of the various individual outlooks into a single figure would appear to be virtually impossible.

The researchers involved in a recent study of the quality of life in the rural South arrived at a list of 20 areas which would likely have some effect on living quality about which the rural residents could be questioned. These included such concerns as the quality of the local government, politics, political organizations, schools, educational system, churches, civic organizations, recreational facilities, job opportunities, income and the transportation system. The list of areas included was not necessarily considered exhaustive but it was felt to include the most critical areas given the current state of development of the rural society in the U.S. South.

Data Source

The southern regional research project entitled "Rural Development and the Quality of Life in the Rural South" and designated S-79 was the source of the data for this study. The analysis is based on data from 29 counties in seven states which counties were considered to be low-income in 1950. Part of the data came from a survey of households in the open-country areas of these counties and the rest from the 1970 Census of Population for the respective states.

Index Construction

Basically the index is a weighted average of the ratings given to the twenty items included in the survey. The ratings of the items were obtained from the survey and a county average obtained for each. The respondents were asked to rate the current quality of each of the twenty areas indicating whether they felt they were poor, fair, pretty good, or very good and these responses were assigned weights of 1, 2, 3, and 4, respectively, for the purpose of arriving at a numerical average. These county averages were then multiplied by the number of people in the open-country areas of the county who were deemed to be most directly influenced by that particular variable. For example, for the variable "opportunities for young people," the average rating was weighted by the number in the open-country population who were between the ages of 16 and 24, while for the variable "public utilities," the rating average was weighted by the total number in the population since all would be directly influenced by the quality of the public utilities. The weights used are shown in Table 1.

The weighted averages for each of the twenty items were then summed over all items and the total divided by the sum of the population numbers used for the weighting. The resulting number was the overall county quality of living index value which could vary between 1.000 and 4.000. These values were used to order the 29 counties included in the study for the purposes of further analysis.

Other County Characteristics

Having arrived at a numerical value for the quality of living based on the subjective responses of the open-country population of these counties which had been low-income in 1950, the opportunity existed to see which county characteristics were statistically related. Since the overall study was concerned with development, it was felt that certain characteristics which were understood to be related to development should be associated with the index values. Without getting into an extended

TABLE I
WEIGHTS USED IN CONSTRUCTION OF OVERALL COUNTY QUALITY OF LIVING INDEX

ITEM (Quality of)	WEIGHT (Number in population)
1. Opportunity for education and training beyond high school	Number ages 19 through 24
2. Situation and opportunities for young people	Number ages 16 through 24
3. Job opportunities	Number ages 16 through 64
4. Provision of good housing	Number all ages
5. County government	Number all ages
6. Local politics and political parties	Number ages 18 and over
7. Income of people who work for wages	Number working outside household
8. Agriculture and land use	Number ages 18 and over
9. Physical environment	Number all ages
10. Situation and opportunities for old people	Number ages 60 and over
11. Medical care and health services	Number all ages
12. Public utilities	Number all ages
13. Roads and transportation services	Number all ages
14. Recreational opportunities	Number ages 4 and over
15. County as a place to live	Number all ages
16. Real income	Number all ages
17. Welfare program	Number ages 65 and over + Number in families with female head and one or more children under 18 + number disabled + Number in families where no adult is able to work
18. Obedience to the laws	Number ages 16 and over
19. Church and religious groups	Number all ages
20. Public schools	Number ages 5 through 18

discussion of just what development is, let me describe some of the characteristics that the authors associate with the term.

Development is understood to involve improvement in the economic opportunities in the immediate area which results in improvement in the quality of the various services offered to the residents. It would also tend to reduce the out-migration of the young and possibly even attract some of the former residents to return. Development further would permit the residents to improve their own homes with equipment which would reduce the physical demands and boredom of everyday living and increase the opportunities for enjoyment and pleasure. It would also provide increased opportunities and desire for involvement outside the home.

With this understanding of development the following county characteristics (averages) were selected for possible association with the overall quality of living index: median family income, size of family, age of household head, age of homemaker, education of household head, education of homemaker, capability-of-adults-to-work index, dependency index, social participation of household head, social participation of homemaker, average of the social participation of the head and homemaker, leisure time participation of household members, Material Possessions Level of Living score, Communication Items Level of Living score, number of level of living items possessed, Anomia Scale score, county population size and the percent nonwhite in the county population. The last two were thrown in as after thoughts just to make sure something obvious hadn't been overlooked.

Where it was possible to obtain the information from the census, that was the source used. For the non-census data the information was obtained from the S-79 survey of the open-country households.

The Analysis

The data to be analyzed consisted of the applicable figures for twenty-nine southern counties. Some of the figures had very clear numerical backgrounds that permitted very precise mathematical interpretation, e.g., median family income. Other figures were based on subjective definitions and the mathematical interpretation was something less than crystal clear. In essence then we had a rather small number of observations and the distributions from which some of them came could not be considered normal.

The data clearly did not meet the basic assumptions underlying the more sophisticated correlational techniques. As a result a statistic was selected which made no assumptions about underlying distributions: rank order correlation (Spearman Rho). The results of the analysis are presented in Table II.

It would appear from the contents of Table II that we practically pulled a blank. Only one of the county characteristics was found to be statistically related to this measure of overall quality of living and nearly all of them had been selected because they were felt to be related to development in some way.

TABLE II
CORRELATION OF OVERALL COUNTY QUALITY OF LIVING INDEX WITH
VARIOUS COUNTY CHARACTERISTICS, 29 SOUTHERN COUNTIES, 1970

County Characteristic (Average)	P (Spearman Rho)	t (two tailed)
1. Median family income	-.06	.31
2. Size of family	-.04	.21
3. Age of household head	-.07	.36
4. Age of homemaker	.17	.89
5. Education of household head	.04	.21
6. Education of homemaker	.21	1.11
7. Capability of adults to work index	.21	1.11
8. Dependency index	-.10	.52
9. Social participation of household head	.25	1.34
10. Social participation of homemaker	.24	1.28
11. Average social participation score	.01	.05
12. Leisure time participation score	-.07	.36
13. Material possessions LOL score	-.23	1.23
14. Communication items LOL score	-.25	1.34
15. Number of LOL items possessed	-.13	.68
16. Anomia scale score	-.14	.73
17. County population size	.08	.42
18. Percent blacks in population	.40	2.27*

*Significant at .05 level.

I say nearly all because two were thrown in just to make sure we hadn't overlooked something. Well, it was one of those that turned out to be significantly related: percent nonwhite!

Before an attempt is made to explain these results, perhaps the distribution of the items that went into the make-up of the weighted index should be examined to make certain that there is some kind of consistency within the index itself. To carry out this examination we did a kind of item analysis. The rank correlation of each of the items making up the index was calculated against the overall index values. The results are presented in Table III.

As one might expect most of these correlations are positive and significant. Only one item was correlated in the "wrong" direction and it was nonsignificant. That was the evaluation of the local educational system. This perhaps is not surprising since the better everything else is, the more sophisticated the consumer population becomes and the more critical they get of the educational system. They are presumably more aware of the alternatives and of the importance of education to the continued improvement of the local community.

Four other characteristics were non-significant in their relation to the overall index values suggesting that subjective opinions about these items do not contribute much to the general assessment of the quality of living in the county. These characteristics are the churches and their programs, the extent to which local citizens are perceived as obeying the law, the welfare program and the real income situation of local people. This grouping has something which could be seen as supportive of people from a variety of political and/or economic persuasions. Anti-religionists might be inclined to use this as evidence that churches do not contribute to the wellbeing of people in rural low-income areas. Political liberals (anarchists?) might interpret this to mean that observance of the laws does not contribute to the quality of living so perhaps we could do with fewer laws on the books that citizens might break. Those conservative capitalists who feel that the cost of welfare is much too great could suggest that since the perceived quality of the programs doesn't relate to the overall quality of living, the cost of the programs might be reduced with little effect. I'm not sure which group would say that we shouldn't be concerned about inflation because people don't perceive any differences in the quality of living as being influenced by the real incomes that people receive, perhaps the welfare rightists.

One other observation about this item analysis. The item that had the weakest correlation that was still significant was the summary evaluation by the county residents of the quality of the county as a place to live. This tends to confirm that people can be consistent in their evaluation of the parts and the whole of their living conditions. At the same time, given the weakness of the correlation, this general response is not an adequate substitute for the overall index.

TABLE III
CORRELATIONS OF COMPONENT ELEMENTS WITH OVERALL
COUNTY QUALITY OF LIVING INDEX

Index Element	P (Spearman Rho)	t (two tailed)
Opportunity for education beyond high school	.76	6.09*
Opportunity for young people	.72	5.40*
Job opportunity	.69	4.97*
Provision of good housing	.69	4.97*
County government	.65	4.43*
Local politics	.64	4.32*
Income for people working for wages	.62	4.09*
Agriculture and land use	.61	3.99*
Physical environment	.59	3.80*
Opportunities for older people	.54	3.33*
Medical and health services	.53	3.24*
Public utilities	.51	3.08*
Roads and transportation system	.51	3.08*
Recreational opportunities	.42	2.41*
County as a place to live	.39	2.20*
Real income	.29	1.57
Welfare programs	.26	1.40
Obedience to the laws	.14	0.73
Church and religious groups	.13	0.68
Public schools	-.22	1.06

*Significant at .05 level.

Discussion

This effort to develop a weighted index of the overall quality of living based on subjective evaluations by rural residents of the conditions that influence their lives is seen as essentially successful. The application of the technique to the data set made available through the S-79 regional project is seen as an illustration of the technique and at least a tentative test to see if the results can be meaningfully interpreted. The lack of correlation with county characteristics usually associated with the goals of development efforts raises some intriguing questions. If the index is really a valid measure of the overall quality of living of the people living there, are the efforts made in the name of development misdirected? If having greater income is not associated with feelings that living is better, why should that be one of the primary goals of development? The same could be said for formal education, social participation and household conveniences. But what should be the direction of efforts at development? What is the contribution made by nonwhites? Is there any indication that this relationship is spurious?

It is possible that the lack of significant correlations with county characteristics that are the goals of development means that the index as constructed is useless. I don't happen to think so but that is one possible interpretation. Since the index does not have an objective component, it is possible that the results are so far removed from reality (objective conditions) that the index values vary randomly. If this is so, then how is the relationship to percent of the population that is nonwhite explained?

For a test of the usefulness of a technique, the number of cases (counties) included in this study is far too small. The sample size of twenty-nine does not permit interpretation of the results with any great confidence. It is sufficient to illustrate the technique, however!

It may be that the weights used in this illustration are not the best possible. It is true that the selection of the weights used was a strictly subjective decision which was felt to be better than simply giving all of the items included equal weights. Others may find rationales for other weighting schemes that would improve the index.

Now, let's take a closer look at the one county characteristic that did correlate with the overall Quality of Living Index values. Nothing in the literature with which the authors are familiar would have led us to expect this finding. In fact the living conditions of blacks who reside in open-country areas of these southern low-income counties is described in the literature on poverty in recent years as being particularly difficult. The statement that "the poor nonwhite family has problems that transcend the difficulties of other poor families..." is illustrative.³ While not all nonwhite families living in rural areas are poor, a much higher proportion of them are than is true for white rural families. The easy extension of these facts is that life is worse for rural nonwhites than it is for rural whites. If this is so, then the proportion of nonwhites in the population should have been negatively correlated with the overall Quality of Living Index. But poorness is measured in terms of the number of dollars one has rather than in terms of the richness of the relations one has with family and friends which is a subjective condition. Is there in the culture of the nonwhites a sense of community that provides a different perspective on whatever other conditions may exist in the area? Are we missing the

boat with our strong emphasis on the economics and material possessions aspects of "development"?

The Overall Quality of Living Index presented here is not the final answer in the search for the best social indicator but it certainly does raise some questions that are deserving of attention.

Footnotes

*Paper presented at meeting of the Rural Sociology Section of the Southern Association of Agricultural Scientists, Houston, TX, February 6, 1978.

**Ombudsman and Professor of Rural Sociology, University of Tennessee and formerly, Assistant Professor of Agricultural Economics, University of Maryland, respectively. The contribution of Miss Moon-Hui Choe is also acknowledged as she performed the small mountain of calculations required for the tables upon which the paper is based.

¹Wilkening, E. A., and Boguslaw Galeski, "Quality of Life: What is it?", Newsline (Vol. 5, No. 1, January, 1977) pp. 2-4.

²Campbell, Angus, Phillip E. Converse, and Willard L. Rodgers, The Quality of American Life. Russell Sage Foundation, New York, 1977, pp. 474ff.

³David, Martin, "The Problem of Poverty in the United States," in Productivity and Poverty, The Johnson Foundation (Racine, Wisconsin) 1966, p. 10.